Gestational Diabetes Treatment Shown Effective

BY MIRIAM E. TUCKER  Senior Writer

Treatment of gestational diabetes reduces serious perinatal morbidity. Caroline A. Crowther, M.D., of the University of Adelaide (Australia) and her associates reported.

Although the risks associated with gestational diabetes mellitus (GDM) are well recognized, it has been uncertain whether screening and treatment to reduce maternal glucose levels also reduce these risks. Given this uncertainty, professional groups disagree on which patients should be screened, the investigators said (N. Engl. J. Med. 2005;352:2477-86).

Now, data in favor of screening come from the 18-center Australian Carbohydrate Intolerance Study in Pregnant Women (ACHOIS), in which serious perinatal complications occurred in just 1% of the infants of 490 women with GDM who were randomized to intensive glucose management, compared with 4% of 510 women who received routine care.

In an accompanying editorial, Michael F. Greene, M.D., and Caren G. Solomon, M.D., wrote that “this study provides critical evidence that identifying and treating [GDM] can substantially reduce the risk of adverse perinatal outcomes without, at least in this trial, increasing the rate of cesarean delivery.”

However, Dr. Greene and Dr. Solomon, both on the editorial board of the New England Journal of Medicine, noted that the study leaves unanswered the question of what level of blood glucose warrants routine intervention (N. Engl. J. Med. 2005;352:2544-6).

The study included women with a singleton or twin pregnancy between 16 and 30 weeks’ gestation who had at least one risk factor for GDM on selective screening or a positive 50-g oral glucose challenge test, with a 1-hour postchallenge glucose level of at least 140 mg/dL. This was followed by a 75-g oral glucose tolerance test at 24-34 weeks’ gestation in which venous plasma glucose was less than 140 mg/dL after an overnight fast and 140-198 mg/dL at 2 hours. When the study began, these women had been classified as having glucose intolerance of pregnancy by World Health Organization criteria, but during the course of the study (in 1998) WHO began classifying any glucose level above normal as being GDM. Women whose glucose values exceeded these cutoffs were not included in the study.

Women randomized to intensive intervention were informed of their diagnosis. They received dietary counseling and were taught how to perform self-blood glucose monitoring, with targets of no more than 99 mg/dL premeal and 126 mg/dL 2 hours after eating.

Twenty percent of the women received insulin therapy. Women randomized to routine care were told they did not have GDM, according to Dr. Crowther and her associates.

Serious perinatal outcomes, including death, shoulder dystocia, bone fracture, and nerve palsy, occurred in 1% of the intervention group vs. 4% of the routine care group after adjustment for maternal age, race/ethnicity, and parity. Thus, 34 mothers would need to be treated to prevent one serious outcome in an infant, they said.

Women in the intervention group were significantly more likely to have induction of labor (39% vs. 29%), but the rates of cesarean delivery were similar in both groups (31% vs. 32%), as were the reasons for it. Infants in the intervention group also had fewer admissions to the neonatal nursery (71% vs. 61%).

Birth weights were significantly lower among the infants born to women in the intervention group (3,335 g vs. 3,482 g), and these infants were also born at an earlier gestational age.

Significantly fewer infants in the intervention group were large for gestational age (13% vs. 22%), and fewer had macrosomia, defined as a birth weight of 4 kg or greater (10% vs. 21%).

Weight gain was less for women in the intervention group, where fewer were diagnosed with preeclampsia. The rates of prenatal hospital admissions were similar.

In their editorial, Dr. Greene and Dr. Solomon noted that they agreed with the authors’ justification for having randomized one group of women to no treatment—that being, this study there were no conclusive data regarding the effects of treating GDM, even after the WHO definition was revised.